

MONTHLY REPORT

25X1

PAR 224

30 Oct 64

SUBJECT: 3 - 15X Fluid Gate Enlarger

TASK/PROBLEM

1. Develop and fabricate an enlarger having continuously variable magnification from 3 to 15X for 70mm negative gate size. Print sizes to range 40 x 40 inches on cut sheet stock.

DISCUSSION

2. Work is proceeding with close correlation to that on PAR 202. Effort this period has been on:

a. Vacuum Platen and Carriage: Design layout work has continued. Casting designs for the platen body and the carriage body are nearly complete enough for discussion with the foundry. A ball-nut lead screw is being considered to drive and position the carriage. The carriage will move on needle roll cam follower "wheels" and will be lifted off them to clamp and steady it during print exposure.

b. Negative Transport: Film tracking tests have been made on the mockup for 70mm thin base and 9.5 inch standard base film. After providing a temporary mount for the spool outrigger arm, the film tracked very well. A new design for the outrigger arm, utilizing a ball bushing and a key mounted on the support shaft, is being fabricated for the transport mockup. The braking system looks encouraging, but it now appears the braking torque may be too great.

c. Lens Design: The design for the 5X to 10X lens was received during the period. A cost estimate for mount design and fabrication of one each samples of the black-and-white lenses is being prepared with order placement to follow.

d. Focus Calibration: Procedures for focus calibration and design of a computer program to write the magnification and lens focus setting tables are being worked on. A Fortran II program for the IBM 1620 computer is being written.

Declass Review by NGA.

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PLANNED ACTIVITY

3. Effort in the next period will be:
 - a. Continue the vacuum platen and carriage design and release some parts of the breadboard model for fabrication.
 - b. Modify and further test the negative transport breadboard.
 - c. Order the mount design and sample lens fabrication for five and possibly all six of the monochromatic lenses for this project and PAR 202.
 - d. Continue work on the focus calibration computer program.

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TENTATIVE SCHEDULE

PAR 4
224
5 Oct 64

3X - 15X Fluid Gate Enlarger

5 Oct 64

MONTHS

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

PHASE I

1. Breadboard Design
2. Breadboard Fabrication
3. B&W Lens Samples
4. Color Lens Samples
5. Engineering Tests
6. Informal Reports
7. Quarterly Reports
8. Final Report

PHASE II - Design & Fabricate Prototype Enlarger

NOTE: Phase II Schedule will be prepared at or near the completion of Phase I.

GROUP 1
Excluded from automatic
downgrading and
declassification

KEY: O - Start
- Complete
@ - Deliver

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